

REMARKS

Claims 1-10 are all the claims pending in the application, among which the Examiner has allowed claims 5-8 and 10.

Claims 1-4 and 9 are rejected under 35 U.S.C. § 103(a) as being obvious in view of Japanese Patent Publication No. 2003304697 ("JP '697") in view of U.S. Patent No. 5,739,651 to Miyazawa et al. ("Miyazawa").

Claim 1, for example, is directed to a control device for an electric power steering apparatus. The apparatus uses a vector control system for applying an assist force of a motor to a steering system. The control device obtains a phase delay according to an angular velocity. A corrected electric angle is calculated by adding the phase delay to an electric angle. The generation of a current command value in the vector control is compensated based on the corrected electric angle. Claims 2-4 and 9 each depend from claim 1.

Applicant respectfully submits that the inventions recited in claims 1-4 and 9 are patently distinct from JP '697 (reference 1) and Miyazawa (reference 2).

Although JP '697 shows an electrical power steering system of a vector control type, it does not disclose compensating a current command by using the phase. While JP '697 shows a phase compensator 112, it merely is a device to compensate the steering torque T_s output from the torque sensor 3. Therefore, JP '697 does not teach the concept of compensation of the current command generation in the vector control system according to claim 1.

Further, Miyazawa relates to a sensor-less control of a brushless motor and discloses that each terminal voltage of the brushless motor is supplied to a phase delay filter 14 and the phase is delayed. However, this phase delay does not correspond to the motor angular velocity as in the present application. Miyazawa obtains angle data based on a value obtained by passing the

motor terminal voltage through the phase delay and a comparator reference voltage, and it uses this as the delay. On the contrary, since the phase delay based on the angular velocity is added to the angle data as recited in claim 1, it compensates to advance the angle.

The Examiner also cites to Miyazawa's claims 6 and 24 in support of the position that Miyazawa teaches adding phase delay and using a corrected angle. However, Applicant respectfully points out that Miyazawa only includes three claims and does not have a claim 6 or 24.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,

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Date: May 14, 2008